

separated by a third zone of the semiconductor substrate doped more weakly than the second zone, the first zone, the second zone and the third zone having a same conductivity type, the second zone enclosed between the second electrode and the third zone; and

an insulating layer formed on a surface of the third zone surrounding the second zone, the edge of the second electrode touching the insulating layer.

REMARKS

I. Introduction

With the cancellation herein without prejudice of claims 17 and 22 to 32, claims 18 to 21 are pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration is respectfully requested.

As an initial matter, Applicant notes that the Office Action Summary does not include an acknowledgment of the claim for foreign priority and does not indicate whether the copies of the certified copies of the priority document has been received from the International Bureau. As regards the claim for priority, the Declaration and Power of Attorney, executed on March 5, 2002, claims priority to Application No. 199 30 781.4, filed in the Federal Republic of Germany on July 3, 1999, and at least the "Notification of Missing Requirements Under 35 U.S.C. 371 in the United States Designated/Elected Office (DO/EO/US)," dated March 19, 2002, indicates receipt of the priority document. Applicant respectfully requests acknowledgment of the claim for foreign priority and acknowledgment of receipt of copies of the certified copies of the priority document from the International Bureau with the next Office communication.

As another initial matter, Applicant notes that the initialed copy of the PTO FORM 1449 paper attached to the present Office Action does not indicate whether U.S. Patent No. 5,217,911 has been considered. Applicant respectfully requests consideration of U.S. Patent No. 5,217,911 and a further initialed copy of the PTO FORM 1449 paper indicating consideration thereof with the next Office communication.

II. Rejection of Claims 17, 22 and 23 Under 35 U.S.C. § 103(a)

Claims 17, 22 and 23 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 3,739,243 ("Semichon et al.") and U.S. Patent No. 4,200,877 ("Suzuki et al."). While Applicant respectfully disagrees with the merits of this rejection, to facilitate matters, claims 17, 22 and 23 have been canceled herein without prejudice or waiver, thereby rendering moot the present rejection. Withdrawal of this rejection is therefore respectfully requested.

III. Allowable Subject Matter

Applicant notes with appreciation the indication of allowable subject matter contained in claims 18 to 21. In this regard, the Examiner will note that each of claims 18 to 21 has been rewritten herein in independent form to include all of the limitations of its respective base claim, *i.e.*, claim 17. It is therefore respectfully submitted that claims 18 to 21 are in condition for immediate allowance.

IV. Claims 24 to 32

Claims 24 to 32, which were withdrawn from consideration, have been canceled herein without prejudice or waiver to facilitate allowance of the present application.

V. Conclusion

Attached hereto is a marked-up version of the changes made to the claims by the current Amendment. The attached pages are captioned "**Version with Markings to Show Changes Made.**"

It is therefore respectfully submitted that all of the presently pending claims are allowable. All issues raised by the Examiner having been addressed, an early and favorable action on the merits is earnestly solicited.

Respectfully submitted,

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Dated: 7/29/03

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 17 and 22 to 32 have been canceled without prejudice.

Claims 18 to 21 have been amended without prejudice as follows:

18. (Amended) [The] A diode [according to claim 17], comprising:
a semiconductor substrate arranged between a first metallic electrode and a
second metallic electrode, the substrate highly doped in a first zone to form an
ohmic transition to the first electrode and weakly doped in a second zone to form a
rectifying transition to the second electrode;

wherein the first zone and the second zone are separated by a third zone of
the semiconductor substrate doped more weakly than the second zone, the first
zone, the second zone and the third zone having a same conductivity type, the
second zone enclosed between the second electrode and the third zone; and

wherein a breakdown voltage between the second electrode and the third
zone is at least three times as great as a breakdown voltage between the second
electrode and the second zone.

19. (Amended) [The] A diode [according to claim 17], comprising:
a semiconductor substrate arranged between a first metallic electrode and a
second metallic electrode, the substrate highly doped in a first zone to form an
ohmic transition to the first electrode and weakly doped in a second zone to form a
rectifying transition to the second electrode;

wherein the first zone and the second zone are separated by a third zone of
the semiconductor substrate doped more weakly than the second zone, the first
zone, the second zone and the third zone having a same conductivity type, the
second zone enclosed between the second electrode and the third zone; and

wherein the second zone is raised over a surface of the third zone, and the
second electrode covers the second zone in a hat shape that includes a
circumferential rim that touches the third zone.

VERSION WITH MARKINGS TO SHOW CHANGES MADE

20. (Amended) [The] A diode [according to claim 17], comprising:
a semiconductor substrate arranged between a first metallic electrode and a
second metallic electrode, the substrate highly doped in a first zone to form an
ohmic transition to the first electrode and weakly doped in a second zone to form a
rectifying transition to the second electrode;

wherein the first zone and the second zone are separated by a third zone of
the semiconductor substrate doped more weakly than the second zone, the first
zone, the second zone and the third zone having a same conductivity type, the
second zone enclosed between the second electrode and the third zone; and

wherein the second zone is planar and island-type on a surface of the third
zone, and the second electrode is flat and touches the third zone in an edge region.

21. (Amended) [The] A diode [according to claim 17], [further] comprising:
a semiconductor substrate arranged between a first metallic electrode and a
second metallic electrode, the substrate highly doped in a first zone to form an
ohmic transition to the first electrode and weakly doped in a second zone to form a
rectifying transition to the second electrode, the first zone and the second zone
separated by a third zone of the semiconductor substrate doped more weakly than
the second zone, the first zone, the second zone and the third zone having a same
conductivity type, the second zone enclosed between the second electrode and the
third zone; and

an insulating layer formed on a surface of the third zone surrounding the
second zone, the edge of the second electrode touching the insulating layer.

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